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10/712,670	11/13/2003	Yong Cho	EL0519 US NA	2597

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WILMINGTON, DE 19805

EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT	PAPER NUMBER
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1714

MAIL DATE	DELIVERY MODE
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05/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/712,670

Applicant(s)

CHO ET AL.

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FINAL REJECTION

Election/Restrictions

1. Newly submitted claim 14 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 14 is directed towards an article, which would have been grouped with non-elected Group III as set forth in the first office action mailed 11/17/05.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 14 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 3-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 1 is deemed to be indefinite in regards to the newly added claim limitation of "wherein the composition contains no desiccant material.". The problem here is that claim 1 requires the incorporation of glass frit, and glass frits are known to inherently adsorb water or water vapor on their surfaces. As such, applicant's newly added claim limitation has the effect of eliminating glass frit, which is a required

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component. This makes the claim totally indefinite. Furthermore, according to dependent claim 9, the glass frits can comprise the listed various components which read not only on silicon dioxide, but also on zeolites and other water adsorbing minerals. Claims 3-9 are being rejected here because they are dependent on a rejected base claim.

NOTE: In light of the above, for the following prior-art rejections, the examiner will read of the scope of independent claim 1 as NOT excluding a desiccant material since the required component of glass frits would inherently function as a desiccant.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Tremel et al. U.S. Patent Application Publication No.: 2005/0238803 A1.

Tremel et al teaches method for adhering getter materials to a surface for use in electronic devices. Applicant's claims are deemed to be anticipated over the getter composition such as set forth in Example 1.

7. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Cho et al. U.S. Patent Number 6,835,682.

Cho et al teach an alkali-containing magnesium borosilicate glass composition comprising, in mole %, 10-25% SiO₂, 10-25% B₂O₃, 5-10% BaO, 40-65% MgO, 0.5-3% ZrO₂, 0.3-3% P₂O₅, and 0.2-5% M₂O where M is selected from the group of alkali elements and mixtures thereof. The invention is further directed to a castable dielectric composition comprising a dispersion of finely divided solids comprising, based on solids: (a) 50-90 wt. % the glass composition as described above; (b) 10-50 wt. % ceramic filler; both dispersed in a solution of (c) an organic polymeric binder; and (d) a volatile organic solvent. The invention is still further directed to the castable dielectric composition described above used in a method of forming a high TCE LTCC green tape by casting a thin layer of the castable dispersion onto a flexible substrate and heating the cast layer to remove the volatile organic. Applicant's claims are deemed to be anticipated over Examples 18-31.

8. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokuyama et al. U.S. Patent Number 4,615,823.

Tokuyama et al teach a desiccating agent comprising a mixture of (A) a deliquescent salt (B) a hydrolyzed copolymer of 50 to 99.8% by mole of vinyl acetate and 50 to 0.2% by mole of an unsaturated dicarboxylic acid in which a degree of hydrolysis of the vinyl acetate component is not less than 70% by mole, and (C) a short cut fibrous material as main components. The desiccating agent can be reused at least 10 times and has a high hygroscopic power and

capacity, see abstract and column 2, lines 53-62. Applicant's claims are deemed to be anticipated over the composition set forth in Table 3 when the glass fibers are used as the fibrous material.

9. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuyama et al. U.S. Patent Number 4,615,823.

Tokuyama et al has been described above and differs from applicant's claimed invention in that there is not a direct teaching (i.e. by way of an example) to where applicant's particularly claimed polymeric binders and organic solvents species are used. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent as motivation to actually used applicant's claimed polymeric binders and organic solvents since such species come with the broad disclosure of the patent, see column 2, lines 20-43, and examples 5-6.

10. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burroughs U.S. Patent Number 3,235,089.

Burroughs teaches an improved filter body and a method of making the same, and more particularly to a desiccant filter body which is composed of particles of certain specific adsorbents bonded together by ceramic bonds. In accordance with the Burroughs' invention these and other objects are achieved by means of a composite filter body comprising particles of an adsorbent

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selected from the group consisting of activated alumina, molecular sieves and mixtures thereof bonded by a ceramic flux material (i.e. glass frit) and a binder. The bodies preferably contain at least 50% by weight adsorbent and the particle size of the adsorbent particles will normally range from 14 to 60 mesh, see column 1, lines 1-52, column 2, lines 44-52, column 3, line 13 to column 4, line 21. Burroughs differs from applicant's claimed invention only in that there is no direct teaching (i.e. by way of an example) to where the binder material used is an organic binder material.

It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent at, column 3, lines 56 to column 4, lines 21 as strong motivation to actually use an organic binder material in the composition. Applicant's particular claimed binder materials are deemed to fall within the broad disclosure of organic binders. In any case, applicant has set forth no showing of any superior and unexpected results that may come about with the use of applicant's particularly claimed organic binders.

11. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shores U.S. Patent Number 5,244,707.

Shores teaches a sealed enclosure of an electronic device incorporates a coating or adhesive with desiccant properties. The coating or adhesive comprises a protonated aluminosilicate powder dispersed in a polymer. Applicant's claims are deemed to be anticipated over Example 2. Please note

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that the Cabosil M-5 component is deemed to read on applicant's claimed glass frit component.

12. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shores U.S. Patent Number 5,244,707.

Shores has been described above and differs from applicant's claimed invention in that there is not a direct teaching (i.e. by way of an example) to where applicant's particularly claimed polymeric binders and organic solvents species are used. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent as motivation to actually used applicant's claimed polymeric binders and organic solvents since such species come with the broad disclosure of the patent, see column 4, lines 8-30, and examples 11-12.

13. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shores U.S. Patent number 5,591,379.

Shores teaches a composition of matter having moisture gettering properties and applicable as coating or adhesive in a hermetic microelectronic device. The composition is applied to the interior surface of the packaging at a thickness of 0.1-25 mil and comprises a desiccant finely dispersed in a binder which is a water vapor permeable solid material. This may be a polymer, porous ceramic or glass. The desiccant is a particulate solid with 0.2-100 micrometer

average particle size. It ought to be able to absorb from a one atmosphere pressure gas containing one volume percent water vapor at least four parts by weight of water vapor per 100 parts by weight of desiccant at 25.degree. C., and for high reliability devices, it should also be able to absorb at least two parts by weight of water vapor per 100 parts by weight of desiccant at 100.degree. C. The desiccant to binder volume ratio ought to be between 0.002 and 2. Molecular sieves are especially useful as the desiccant component of the composition of this invention, see abstract, column 3, lines 3-63, and column 3, line 64 to column 4, line 12.

Shores differs from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to where a glass binder is used in combination with a polymeric binder. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent as motivation to use admixtures of binders such as glass binders and organic polymeric binders. In any case the courts have constantly declared that to employ two or more materials in combination for the same purpose they are taught as being individually useful is not patentable outside a showing of superior and unexpected results, see *In re Kerhoven*, 205, USPQ 1069 (CCPA 1980).

Response to Arguments

14. Applicant's arguments filed 5/26/06 with the amendment have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional examiner comments are set forth next.

Applicant's principle argument over all the applied prior-art references is that they all comprise a desiccant material and applicant's independent claim 1 "does not". In sections 2-3 of this office action the examiner has addressed this issue and as shown that independent claim 1 DOES require a desiccant material in the form of glass frits. In any case, applicant's said arguments are totally moot in regards to independent claim 2, which positively requires a desiccant material, from which dependent claims 3-9 depend. Furthermore applicant's arguments that some of the glasses used by the applied prior-art require channels or porousness for water vapor to penetrate whereas applicant's invention does not require this porousness is a moot point since no such limitation is found in any of the examined claims. Finally, applicant's both filed Terminal Disclaimers have overcome the previously applied ODP rejections.

Conclusion

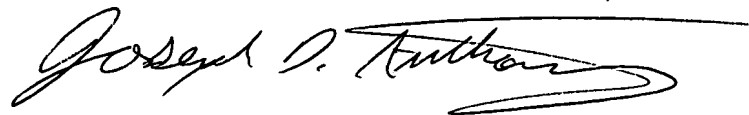
15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

5/1/07